

Randomized Control Trial Embedded in an Electronic Health Record

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| Principal Investigator: | Kahn, James O., M.D. |
| Organization: | University of California San Francisco (UCSF) |
| Mechanism: | RFA: HS08-002: Ambulatory Safety and Quality Program: Improving Management of Individuals with Complex Healthcare Needs through Health Information Technology (MCP) |
| Grant Number: | R18 HS 017784 |
| Project Period: | September 2008 – August 2012 |
| AHRQ Funding Amount: | \$1,199,928 |

Summary: Because AIDS is a chronic illness, applying the chronic care model (CCM) to patients with AIDS may lead to improved outpatient care and easier, safer clinical transitions. Clinical information systems (CISs) are a key element in the CCM. While most CISs have focused on the provider as the recipient of critical data, CISs that target patients might also improve health care. Personal health records (PHRs) are increasingly common applications and typically function as repositories of clinical data, allowing patients to receive information, partake of their health care, and view data necessary to guide practical decisions.

Dr. Kahn and his team developed an easy-to-use, secure PHR for HIV-positive people who are seeking care at a safety-net care clinic at San Francisco General Hospital. Participants were randomized to receive 12 months' access to a Web-based PHR ("PHR" group) or to an account that withheld the PHR information ("no PHR" group) until study followup was complete. Both groups received computer and Internet training and a list of sites where participants could access the Internet for free. The team conducted a randomized controlled study to determine if the PHR would assist with patient health care as determined by surrogate markers for immunologic health (higher CD4 cells and lower viral load). Most PHRs provide data via secure Internet portals but patients receiving care in safety-net settings may have limited access to the Internet and inadequate technical competency and health literacy, which constrains engagement with PHR applications. Therefore the team sought to determine if people with HIV infection and mental health and/or substance use (MH/SU) diagnoses were able and willing to use a PHR. They also sought to understand the skill sets that individuals with MH/SU had at baseline and requirements to access PHRs successfully.

Specific Aims:

- Build the infrastructure and content of the PHR to provide patient decision support, information retrieval, and communication tools. **(Achieved)**
- Evaluate patient and provider experiences using the ePHR, including patient access and use of health education materials and patient-provider satisfaction with the PHR. **(Achieved)**
- Assess outcomes, including quality of patient-provider interactions, changes in patient behaviors, clinical outcomes, safety, and health services utilization. **(Achieved)**

2012 Activities: Dr. Kahn and his research team used a 12-month no-cost extension to complete the project. An article, [A cross-sectional study of barriers to personal health record use among patients attending a](#)

[safety-net clinic](#), was published in the *PLoS One* Journal in early 2012. The project ended in August 2012.

Impact and Findings: There was no difference in CD4 cell count or viral load between the two groups. The project team speculates that while using this technology may not be a powerful tool to influence biology, it may serve as a social force to link otherwise-disconnected patients to a social network. Further studies will need to ascertain if access to a social network influences health outcomes.

The research team found that MU/SU conditions were not barriers to engagement with Web-based health information. Level of computer competency was a way to identify individuals who required substantial computer training in order to fully participate in the study.

Target Population: Adults, Chronic Care*, HIV/AIDS

Strategic Goal: Develop and disseminate health IT evidence and evidence-based tools to support patient-centered care, the coordination of care across transitions in care settings, and the use of electronic exchange of health information to improve quality of care.

Business Goal: Implementation and Use

* This target population is one of AHRQ's priority populations.